

**A STUDY ON CONSUMER PREFERENCE AND BRAND AWARENESS
OF MASALA PRODUCTS**

*Dissertation submitted to the University of Kerala in partial fulfilment of the
requirement for the Degree of Master of Science in Environmental Sciences*

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This is to certify that the dissertation entitled "A Study on Consumer Preference and Brand Awareness of Masala Products" is record of the studies and original research work carried by Ms. PREMI A, at Research Centre and Post Graduate Department of Environmental Sciences, All Saints' College, Thiruvananthapuram, as part of **DEGREE OF MASTER OF SCIENCE IN ENVIRONMENTAL SCIENCES** under my supervision and guidance. She has effectively utilized all the facilities in the Department of Environmental Sciences. I certify that, a sincere effort has been undertaken from her part. I further certify that no part of this work has been submitted earlier for the award of any other degree, diploma, fellowship or other similar titles or prizes.

Wishing her all Success



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DECLARATION

I hereby declare that this dissertation entitled on the "**A STUDY ON CONSUMER PREFERENCE AND BRAND AWARENESS OF MASALA PRODUCTS**" is a bonafide record of project work done by me during my MSc Environmental Sciences course under the supervision of Dr. Reshma J K , Assistant Professor and Head of the Department, Post Graduate Department of Environmental Sciences, All Saints' College, Thiruvananthapuram and that no part of this work has been reported for any other degree or diploma earlier.


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PREMI A

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ABSTRACT

Spices are a mixture of many ingredients that provide a pleasant smell. They are used mainly to enhance the taste of food. Spices play a very important role in Indian cooking. India produces a wide variety of spices that are exported to different nations in the world. The present study was attempted to analyse consumers' preferences and usage of various brands of curry powders and masalas available in the open market. The study has been made by collecting the responses of consumers by means of survey method. The questionnaire consists of 37 questions which are completed by 220 respondents. The findings of the research show that the most preferred brand was Eastern compared to other brands in the market. The reasons for recommending to others were its quality, taste, aroma, brand value etc. Advertisement, easy availability, nice packaging and designs, friends' recommendation and retailer's influence are the main factors that influence the buying decision of masala products. Despite this, almost all brands have been reported as having chemicals that can cause health problems by the food safety and standards authority of India (FSSAI). The majority of the respondents were also aware about the adulteration in curry powders and masalas available in the open market. But due to the lack of time and knowledge on usage of herbs most of the people prefer branded curry powders and masalas.

INTRODUCTION

Masala, simply means “blend of spices,” and masala powder is a combination of several different condiments that have been mashed up. In Indian cuisine, spices have traditionally played a significant role. The Indian subcontinent is where it was first developed. The main purpose of the spices in Indian cuisine is to give the food a full, authentic flavour. The process of making masala often takes a long time and needs a slow development of flavours. Historically, India has been the land of spices. Since ancient times, traders from different countries have travelled to India to purchase unique spices. The custom is still practised today. India produces a wide variety of spices that are exported to almost every nation in the world. They adored the flavours and methods used to cook Indian food. Indian masala is a flavour enhancer that makes food incredibly tasty and a delightful texture.

When man used to eat lavishly and slowly in the olden days. The masala preparation process usually involved a number of condiments and then at cooking time, the masala is mixed with food items in order to achieve the desired taste. A lengthy and difficult process is required to prepare curry powder and masala manually. The homemakers use different varieties of spices to make wide varieties of curry powder and masalas like sambar powder, rasam powder, garam masala, biriyani masala, turmeric powder, chilli powder, coriander, mutton masala etc. Homemade curry powders vary according to preference, but they usually include turmeric, coriander, chilli, pepper, cumin, ginger, bay leaves, cinnamon, cardamom, anise, fennel, clove, and mustard powder. As we prepared it ourselves, it is free of artificial colours and preservatives, so it is very healthy and possess food value.

Generally, the modern homes also don't have the amenities required for traditional processing of curry powders and masala. With urbanization, the rate of working women increases in developing countries like India. Only less time is available to them for preparing food in the kitchen. So, branded curry powders and masalas gained immediate acceptance from the people especially, working women. It was convenient to use without any further processing and women found it easy to use. As a result, time and effort were saved, and the chore of collecting ingredients, cleaning and sorting them, and preparing food was reduced significantly. People's lifestyles are changing as a result of the current trend, branded products are becoming more and more popular. So, many companies have entered the market with

variety of curry powders and masalas. The customers are willing to purchase more masalas and curry powder. Due to the fact that it is easy to keep, store for longer periods than homemade, provide instant freshness, affordable, available in varying quantity depending on requirements etc. A severe competition arose between masala powder manufacturers and distributors. There is also an advertisement war between manufacturers as they highlight their masalas and powders' features. The goal of increasing the company's profit and meeting the customer's needs may lead to adulteration. To make the food tasty and look good, artificial colours and preservatives are added. It actually destroyed our health instead of improving it.

Curry powder is extremely versatile and generally simpler. Besides enhancing the taste and aroma of cooked food, spices also have some nutritional benefits. It contains anti-inflammatory compounds, which can reduce oxidative stress, improve digestion, lower cholesterol, protect the heart, improve blood sugar levels, etc. It doesn't contain any kind of adulteration, artificial colour, preservatives and chemicals as we prepared for our family.

Reports published in recent newspapers indicate that most curry powders and masalas contain chemicals. Despite the report published in the newspaper that curry powder and masala contained chemicals, this study was conducted before that report was published. Thus, the aim of the current study is to determine consumer preference and usage of various brands of curry powder and masalas available in the market.

RELEVANCE OF THE STUDY

Cancer and other health related problems are on the rise these days. The main reason for shifting from homemade to branded curry powders and masalas was due to easy availability. It is due to the difficulty of preparation at home, a lack of knowledge on how to prepare recipes, and a lack of time in their busy schedules. It is better to use masalas and powders prepared at home rather than store-bought and pre-packaged curry powders and masalas purchased from the market. This study was conducted to analyse consumers' preferences and usage of various brands of curry powders and masalas available in the market along with the awareness level of people about the adulteration in it.

In this study, an effort has been made to know the consumer preferences and brand awareness among different users. Majority of the products which are available in sealed packets often pose threat to human health. The packaging materials along with the adulterants added to enhance the shelf life, aroma, colour and taste will worsen the situation further. Food containing primarily protein, carbohydrates, fats and other nutrients necessary for growth and vitality. A vital part of nutrition is digestion, which facilitates the body's ability to absorb and utilize food. If we are going to consume these curry powder and masala on a regular basis, definitely our health will be at stake. It is very important to spread consumer awareness as well as consumer consciousness. The study will be very useful in increasing knowledge and spreading people's awareness in selection of such products from the open market.

BACKGROUND OF THE STUDY

There is a high preference for branded curry powder and masalas among consumers. Health concerns are not a priority for the companies. Therefore, curry powder and masalas are formulated with chemicals to enhance their taste and colour. Profits are the only focus of the manufacturers. In order to achieve it, they are willing to go to any extreme rather than being concerned about consumer health. To validate this, the table showing the different adulterants reporting the presence of harmful chemicals are shown below;

Sl.No	Spices	Adulteration
01	Black Pepper Powder	Addition of papaya seeds, starch and sawdust
02	Turmeric powder	Addition of lead chromate, mercuric yellow, chalk powder or yellow soap stone powder and starch; substitution with other rhizomes e.g. arrow root etc.
03	Chillies powder	Addition of brick powder, salt powder or talc powder, artificial colours and dyes, colour, grit, sand, dirt, filth, saw dust, dried tomato skin
04	Asafoetida (Hing)	Addition of soap stone or other earthy material, starch, foreign resin
05	Coriander powder	Addition of animal dung powder, seed removed coriander
06	Oregano	Addition of other similar herbs and plant leaves
07	Curry Powder	Addition of starch powder and sawdust
08	Cinnamon	Substitution with Cassia
09	Cumin	Addition of grass seeds coloured with charcoal, immature fennel
10	Saffron	Addition of coloured dried tendrils of maize cob, Sandalwood dust, Tartrazine, Coconut threads
11	Cardamom	Substitution with de-oiled cardamom, artificial colourant (e.g. 'apple green', malachite green)

OBJECTIVES OF THE STUDY

The study is focused on the following objectives.

- To analyze the general trend in the consumption of curry powders and masalas.
- To analyze the consumer preference usage of various brands of curry powders and masalas available in the market.
- To identify the awareness level of people on the adulterant present in the curry powders and masalas.
- To analyze the influencing factors in the purchase decision of different brands of masala products.

REVIEW OF LITERATURE

Numerous studies were conducted in curry powder and masala based on consumer preference on various brands available in market and usage of homemade masalas. The review presented below represents the background data on consumer preferences and the favorite brands by different users.

Tanzina Noor *et al* (2017) examined consumer brand preference and acceptance of spice powder in Sadar Upazila of Mymensingh district in Bangladesh. 42% of consumers preferred to use only branded spice powders, 22% preferred loose spice powders, 20% preferred breaking spice powders and 17% preferred paste spice. The study revealed that most consumers thought those brands had a well-established brand image not only domestically, but also abroad. Researchers found that RADHUNI spice powder attracted more attention from modern housewives than other brands, including PRAN, ARKU, PURE, BD foods, etc.

A study was conducted by Dr. B. Angamuthu (2019) to analyse the consumers' perception and satisfaction towards the Sakthi Masala Products. Research has shown that Turmeric and Chilli Powder are the most preferred pure spices. Mutton and Chicken masala were the preferred spice blends. Tamarind and lemon rice powder as well as bajji-bonda mix were the preferred spice mixes of Shakthi Masala Products. The main factors influencing buying decision were accessibility aspects, product speciality, brand reputation and better quality with reasonable price. Chi-square analysis reveals that there exist a significant association among various age groups and place of living of the customer.

Dr. R. Krishnakumar *et al* (2017) conducted a study on consumer satisfaction of Aachi masala products in Cuddalore district. it was found that the packaged masala is more preferable than the loose masala in that District. "Aachi" masala was preferred by most of the users because of the Packaging, price, availability, taste, etc. over other products. So, most of them prefer to buy Aachi Masala to prepare foods in easy manner and to save time.

Dr.M. Prakash *et al* (2017) conducted research in Salem District to analyse the consumer preference towards a brand of masala powder (brand popularity). For this various brand of masala powder are considered. Each brand of masala powder uses a different combination of spices. The only difference between their products is the rate at which they mix. In his study eight popular brands in Salem District were selected for the study. The study

reveals that the Shakti masala was first in availability in the market. Mami masala second, Annapoorna third, Anitha fourth, Aachi fifth, Adistya Masala sixth, Rock fort masala seventh, and Golden ready mix the last.

V. Kamarasan (2014) undertook research in the consumer behaviour towards packaged spices in Madurai. From his study, it was concluded that the packaged spices are preferred more than the loose spice. In Madurai city. Majority were preferred the “Aachi” spice. The analysis revealed that Income level and purchasing behaviour have strong association. It was inferred that the purchase of a particular Brand & the factors affecting the consumer while choosing a brand are packaging, price, availability, taste etc. In addition, Profession and age affects a consumer’s preference for a particular brand.

Anugya Bharti and Kalpana Kulshrestha (2016) conducted a market survey and consumer survey about the availability and use of masala powder/ paste. To know about the availability and information of the products (like price, composition etc) market survey was conducted. Along with it, consumer survey was also conducted. It was concluded that the majority of about 80% use readymade masala powder/paste of various brands to reduce the cooking time. Majority prefers the Catch brand because of good quality, easy availability and affordable price. But 20% of the respondents don’t like to use, they prefer freshly prepared ones. Along with the selection of either paste or powder, powder was more liked by respondents because of easy to store, handle, more shelf life and taste better.

A study was conducted by Simranpreet Kaur Bhatha *et al* (2020) to assess the intake and spices consumption level of spice among urban and rural households in Ludhiana district of Punjab through a questionnaire. For their study, they select commonly used 25 spices in Punjab diets to assess their dietary intake at the individual level among households. It was concluded that the urban households showed higher consumption of spices (red chilli and turmeric powder) as compared to rural household consumption. Urban adult women consumed more species per day as compared to rural women.

Dr.K. Krishnakumar and Kavitha (2014) investigated the influence of brand loyalty on masala product buying behaviour of female consumers of Salem city in the Tamil Nadu. The study concluded that there was a high-level influence of product attributes on brand loyalty among women in Salem. Product attributes such as longer shelf life, taste, exotic flavour and

varieties, excellent grade of ingredients, pleasant aroma / distinctive flavour aroma, taste enhancer, delicious, hygienically and good packaged, fresh and safe to use, optimum processed, price worthiness, promotion and offers, and availability of various quantity are most important aspects of brand. It was found that Sakthi branded Masala powder create high level of brand loyalty among consumer.

In a study conducted by Harishma Vijay L, Dhanya .M *et al* (2020) on assessing the consumer choice of masala (homemade/readymade) for home cooking in Trivandrum city, Kerala. From the analysis it was clear that people choose to use the homemade masala and spice powders rather than readymade ones. This is because, they consider the homemade masalas and spice powders were not adulterated. Consumers care about the purity of products they consume.

Dr.S. Kavitha and Dr.P. Raja (2019) studied the consumer brand preference of masala powder in Namakkal District. Consumer brand preference of Masala powder, awareness level among the consumers in the various masala brands and their different varieties, attitude among the masala powder users at the time of purchasing, advertising impact of masala powder purchase, identify the factors influencing of masala powder purchase in Namakkal District and measure the consumer Satisfaction level with respect to selected masala powder are the six objectives considered for the study. It was found that most of the customers use Shakti masala, Aachi masala and Annapoorna masala.

A study was conducted by Stephen Joseph (2019) entitled “A study on brand awareness and brand preference of Double Horse products' at Manjilas food tech pvt. ltd" was done to study the brand awareness and brand preference of customers on Double Horse. It was concluded that majority customers have aware about Double Horse brand and they show a high rate of brand loyalty towards Double Horse products. Most of the customers prefer Double Horse because of its brand image, quality, durability, availability, advertisement etc. And it was found that” The current situation of Double Horse the market is good but measures should be taken for Brand Rejuvenation i.e., Adding value to an existing brand by improving the product quality and its overall attributes and appeal.”

I. Mazumdar and Goswami (2014) conducted a study to investigate lead contamination in selected spices which are commonly consumed in India. For the study samples of black

pepper powder, curry powder, chilli powder, chat masala and garam masala were collected from 15 selected stores across Kolkata, India. These samples were collected using market-based survey method and they were tested by Atomic Absorption Spectrophotometry. It was found that highest level of lead, greatly exceeding the permissible amount was present in Chilli powder and Turmeric powder.

P. Abinaya, S. Kanimozhi *et al* (2015) undertook research in Avadi to identify the consumer satisfaction towards Aachi chicken masala. This research was based on the consumer satisfaction of Aachi chicken masala and the product preference of the consumers to identify the competitors of Aachi and provide suggestions to improve the quality of the product. It was found that the satisfaction level of customers is moderate with respect to availability, variety, flavours and aroma. The research outcome also indicates that the most of the customers were satisfied towards Aachi chicken masala with respect to the chosen factors.

In a study conducted by Sadia Sattar, Pabitra Chandra Das *et al* (2019) on consumer perception towards quality of spices powder available in Bangladesh. It was found that on average of 90.70% people believed that the spices are not of good quality. “Based on consumers’ opinion, cancer, chronic nephritis and high blood pressure were the top possible diseases which may associate due to consumption of adulterated spices. Also, the people suspect that the quality of spices powder in Bangladesh is not up to the mark and they are expecting necessary action against adulteration if found in spice powder.

Mr.S. Hariharan (2019) conducted a study on consumer satisfaction towards Aachi masala product in Tambaram town, Chennai. The overall analyses of the study indicates that so many varieties of products were available even the customer were satisfied with the smell, taste, quality, cost, packing of the Aachi masala products. Dr.M. Vasan (2019) studied the consumers preference and consumption towards Instant food products. The study inferred that the majority of the customers purchase the instant food products on regular basis. Because of its, easy availability and less time for the preparation of food. The main reason for purchasing the Instant food products were less time for preparation. Also, the customers were more satisfied with its availability in the market.

Saloni Solanki and Simran Jain (2017) conducted a study on consumer buying behaviour and consumption patterns towards ready to eat food industry in Northern India. The

study was conducted through survey. They prefer ready to eat food products because of easy use and it save time for the working population. The final findings of the study where they were able to withdraw that the consumers are aware about the industry but they are unable to complete rely on it.

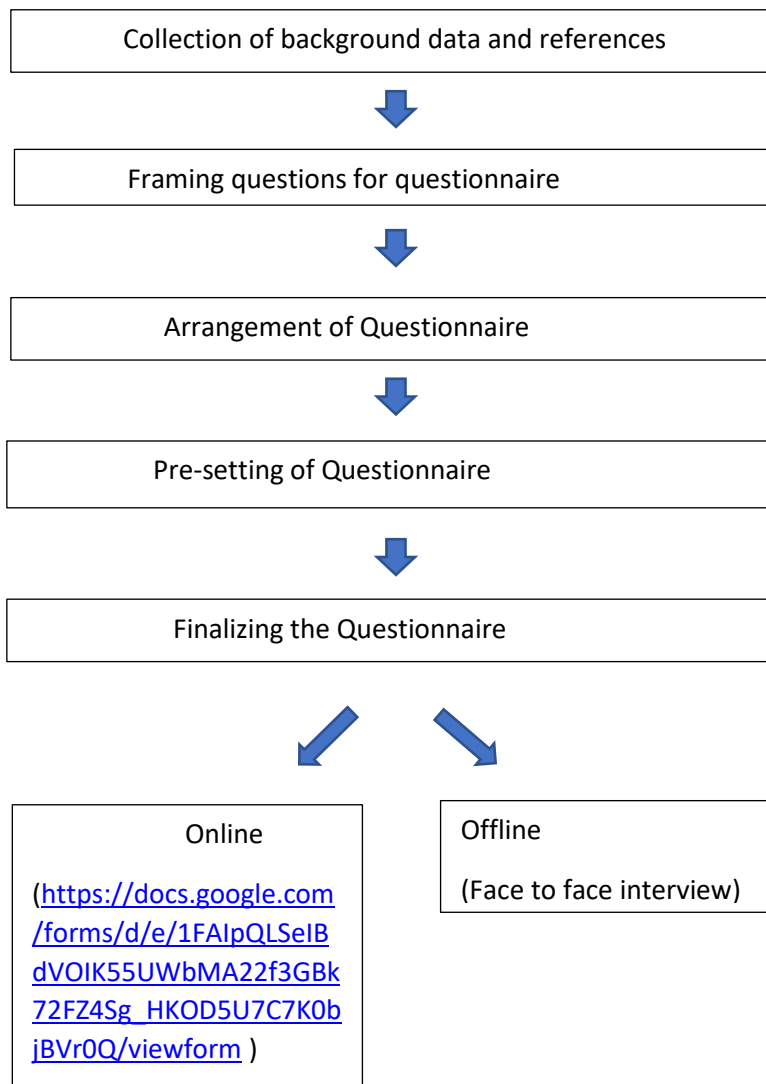
In a study conducted by S. Kavinkesinikethan, Dr.S. Selvanayaki *et al* (2019) on the consumer preference for branded spice powders in Erode city. The factors that influence the consumers to shifting from homemade to branded spice powders were analysed using various attributes which includes age, income, family size etc. The study revealed that this is because of lack of time, laborious nature and lack of knowledge on how to prepare etc.

A study was conducted by M. Bala Swamy, T. Anil Kumar *et al* (2012) to analyse the existing buying behaviour of instant food products and to predict the demand for instant food products in Hyderabad city. It was found that “the low cost of preparation in home and differences in tastes were the major reason for non-consumption, whereas the ready availability and save time of preparation were the reasons for consuming Instant Food Products. High price and poor taste were the reasons for not purchasing particular brand. And the retailers influence, best quality and ready availability were considered for preferring particular brand of products by the consumers”.

METHODOLOGY

In majority of the scientific experiments, the socio economic and health factors were not prioritized or not given enough importance. In spite of ample evidence on the instances on food adulteration and instances of death related to adulteration, the packed masalas and curry powders still contain harmful substances. The present study is an indication of how people behave and the societal implications when it comes to easy access on curry powders and masalas available in the open market. The awareness levels of people on the adulterants present in the packed masala and curry powders were checked indirectly by means of a survey (both online and offline) conducted among various users. Prechecked questionnaire were prepared with support from the Department of Education, University of Kerala.

The methodology of the study conducted is presented below in the flowchart provided:



The study is based on the questionnaire prepared. The questionnaire is attached below;

1. Name

2. Age range

- i. Under 18 years old
- ii. 18-30 years old
- iii. 30-50 years old
- iv. 50-70 years old
- v. Above 70 years old

3. Sex

- i. Male
- ii. Female
- iii. Other

4. Where do you reside?

- i. Rural/Village area
- ii. Urban/City area

5. Occupation

- i. Homemaker
- ii. Student
- iii. Government employee
- iv. Private employee
- v. Self employed
- vi. Retired
- vii. Unemployed

6. Are you a person who regularly visit margin free market?

- i. Yes
- ii. No

7. Give the frequency of your visit?
- Once in a week
 - Twice in a week
 - Once in a month
 - Twice in a month
8. Which are the usually buying commodities from margin free market?
- Grocery
 - Fish and meat products
 - Fruits and vegetables
 - Refreshment products
9. Along with your provisions, do you purchase curry powder and curry masalas?
- Yes
 - No
10. If No, what will be the quantity of curry masala and curry powder prepared at home in a month?
- 500 g
 - 500g -1kg
 - 1-1.5 kg
 - More than 1.5 kg
11. What will be your choice while using Sambar powder?
- Nirapara
 - Eastern
 - Kitchen treasures
 - Double horse
 - Home made
 - Other
12. What will be your choice while using Chilli powder?
- Eastern
 - Kitchen treasures
 - Melam
 - Devon

- v. Home made
- vi. Other

13. What will be your choice while using Turmeric powder?

- i. Eastern
- ii. Double horse
- iii. Nirapara
- iv. Devon
- v. Other

14. What will be your choice while using Coriander powder?

- i. Eastern
- ii. Kitchen treasures
- iii. Double horse
- iv. Nirapara
- v. Home made
- vi. Other

15. What will be your choice while using Rasam powder?

- i. Brahmins
- ii. Nirapara
- iii. Melam
- iv. Double horse
- v. Home made
- vi. Other

16. What will be your choice while using Pickle powder?

- i. Nirapara
- ii. Eastern
- iii. Kitchen treasures
- iv. Quality food products
- v. Home made
- vi. Other

17. What will be your choice while using Chicken masala?

Kitchen treasures

- i. Eastern
- ii. Nirapara
- iii. Double horse
- iv. Home made
- v. Other

18. What will be your choice while using Mutton masala?

- i. Eastern
- ii. Kitchen treasures
- iii. Nirapara
- iv. Quality food products
- v. Home made
- vi. Other

19. What will be your choice while using Meat masala?

- i. Eastern
- ii. Kitchen treasures
- iii. Nirapara
- iv. Double horse
- v. Home made
- vi. Other

20. What will be your choice while using Biryani masala?

- i. Eastern
- ii. Nirapara
- iii. Double horse
- iv. Aachi
- v. Home made
- vi. Other

21. What will be your choice while using Garam masala?

- i. Eastern

- ii. Nirapara
- iii. Kitchen treasures
- iv. Double horse
- v. Homemade
- vi. Other

22. What will be your choice while using Fish masala?

- i. Nirapara
- ii. Kitchen treasures
- iii. Double horse
- iv. Quality food products
- v. Homemade
- vi. Other

23. What will be your choice while using Egg masala?

- i. Nirapara
- ii. Aachi
- iii. Eastern
- iv. Quality food products
- v. Home made
- vi. Other

24. What will be your choice while using Vegetable masala?

- i. Double horse
- ii. Eastern
- iii. Kitchen treasures
- iv. Nirapara
- v. Home made
- vi. Other

25. What will be your choice while using Curry masala?

- i. Aachi
- ii. Nirapara
- iii. Double horse

- iv. Eastern
- v. Home made
- vi. Other

26. Which brand do you recommend to others?

- i. Aachi
- ii. Eastern
- iii. Nirapara
- iv. Devon
- v. Shakthi
- vi. Kitchen Treasures
- vii. Double Horse
- viii. Quality food products
- ix. Melam
- x. Brahmins
- xi. Others

27. Of the different brands discussed in this questionnaire, which brand will you be recommending to others? Because of its,

- i. Taste
- ii. Aroma
- iii. Low price
- iv. Brand value
- v. Nutritive value
- vi. Advertisement influence
- vii. Quality basis
- viii. Other

28. Which one will you opt, if given a choice?

- i. Homemade
- ii. Branded curry masala

29. Purpose of using the masalas?

- i. Non vegetarian
- ii. Vegetarian
- iii. Both

30. Frequency of purchase?

- i. Regularly
- ii. Whenever needed
- iii. Occasionally

31. What is your expectation while purchasing branded curry masala and curry powder from market?

32. What is the reason for opting instant curry masalas from market over home ground masalas?

- i. Lack of time for preparation
- ii. Lack of knowledge on usage of herbs
- iii. Availability of ingredients
- iv. Easy availability of branded products
- v. Other

33. Do you completely depend on margin free market, for the needs of the curry masalas and curry powder?

- i. Yes
- ii. Partially
- iii. No

34. Satisfaction towards the Curry powder?

- i. Quantity
- ii. Quality
- iii. Price
- iv. Offers
- v. Freshness

- vi. Other

35. What is your major influencer in purchase decisions?

- i. Friends' recommendation
- ii. Nice packaging design
- iii. Easy availability
- iv. Retailer influence
- v. Influenced advertisement
- vi. Availability of wide range of flavors
- vii. Other

36. Are you aware of the adulteration in curry powder and masalas in the open market?

- i. Yes
- ii. No

37. Do you think that continuous usage of branded products leads to adverse health?

- i. Yes
- ii. No

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RESULT AND DISCUSSION

DEMOGRAPHIC PROFILE OF CUSTOMER

A total of 220 people completed the questionnaire and these questionnaires were considered for the study. People who participated in the survey were systematically offered to complete a questionnaire consisting of a set of 37 questions for the survey-based study. The study population included 78.18% females (n=172) and 21.82% males (n=48) of all the age groups in which the most frequent age group was 18–30-year-old (93.18%, n=205) and the least response was from the age group was 50-70 years old (1.36%, n=3).

Most of the respondents about 70.91% live in village areas while 29.09% live in cities.

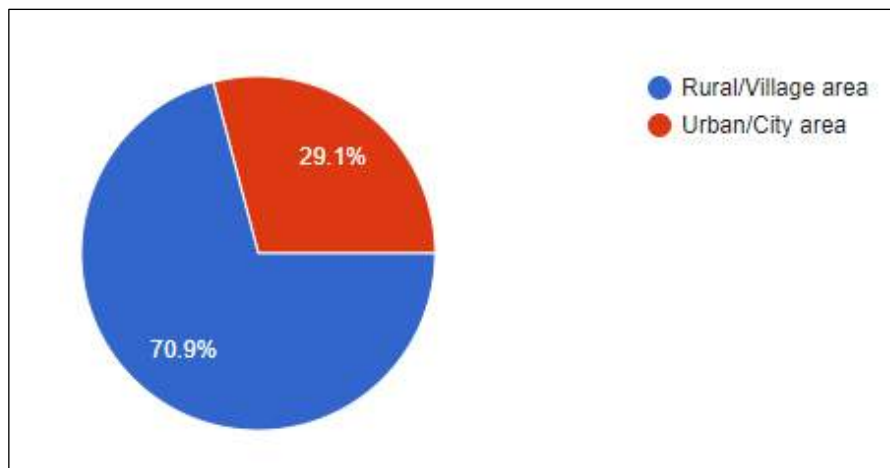


Fig no. 4.1 shows the residency of respondents

OCCUPATION

People who are participated in the survey were from different occupational backgrounds. Most responses came from the students (78.64%, n=173), and least from self-employed (1.36%, n=3)

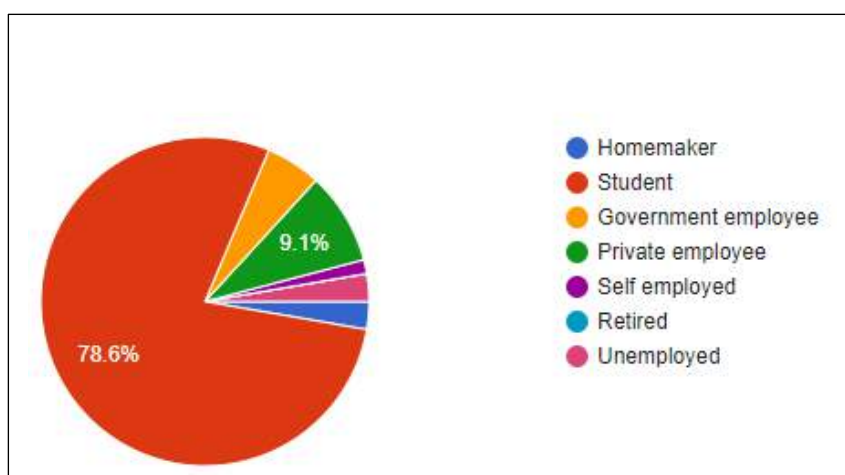


Fig no. 4.2 shows the working status of respondents

The results are presented and discussed below ;

FREQUENCY OF MARGIN FREE MARKET VISIT

Respondents were asked how often they visit margin free market. The results shows that 40.9% (n = 90) of the people visit the margin free market frequently whereas 59.1% (n=130) were not at all visitors of margin free market.

Majority of the people's response for the frequency of the visit were once in a month (50.7%, n=108), 20.2% (n=43) visit twice in a month, 17.8% (n=38) once in a week and least for twice in a week which was (11.3%, n=24).

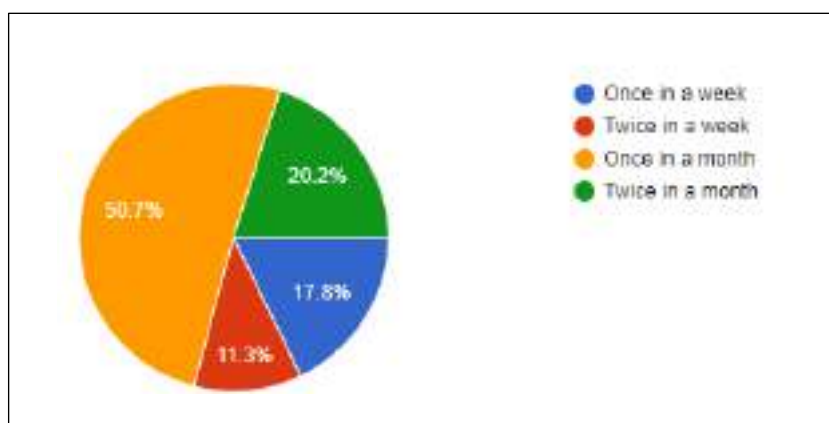


Fig no. 4.3 shows the frequency of visit to margin free market

The below bar diagram shows the response for the usually buying commodities from the margin free market.

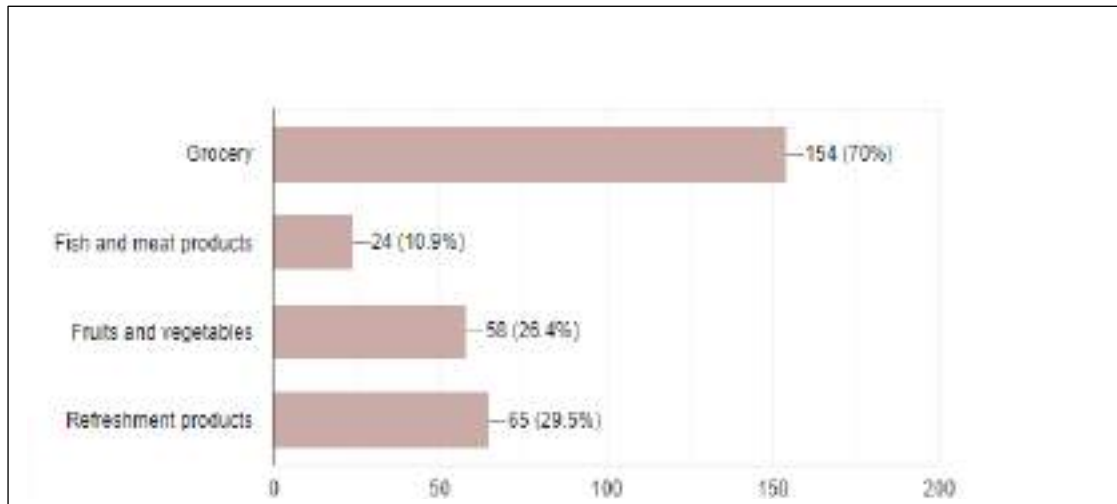


Fig no. 4.4: shows the commodities purchased from the market

The result indicates that the majority of the respondents choose grocery (70%, n= 154), 29.5% for refreshments products (n=65), 26.4%(n=58) for fruits and vegetables and 10.9% (n= 24) chose fish and meat products.

Also, Respondents were asked that if they purchase curry powder and masalas along with other provisions. The following pie chart shows the response received from the respondents.

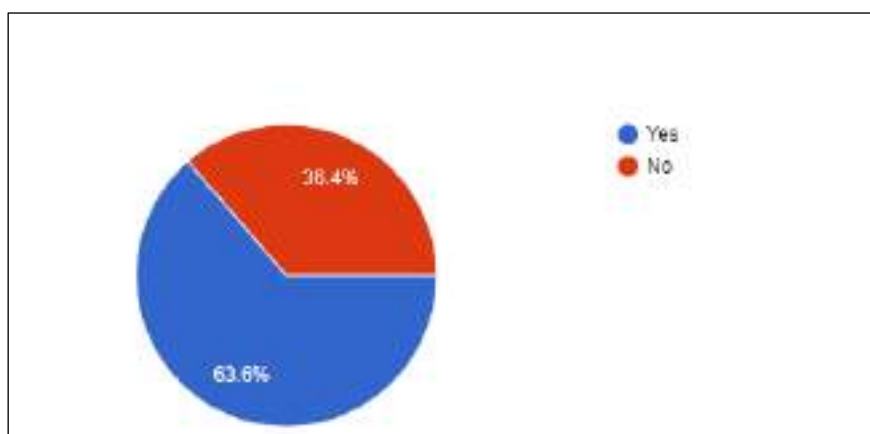


Fig no. 4.5 shows the purchase of curry powders and masalas

The result shows that 63.6% (n = 140) of the respondents were the users of curry powders and masala while 36.4%(n= 60) were non users of curry powders and masalas. Along

with that, the non users of the curry powder and curry masala were asked about the quantity they prepared at home in a month. Their response is shown below in the following bar diagram.

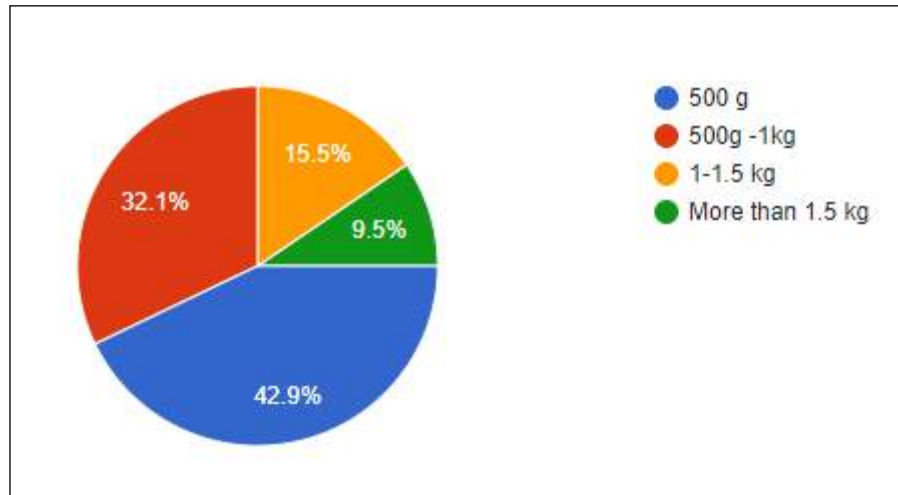


Fig no. 4.6 shows the quantities of masalas prepared at home

42.9% (n=72) of the respondents prepared 500g of curry powder and curry masala, 32.1% (n = 54) prepared between 500g to 1kg , 15.5% (n=26) prepared between 1 to 1.5 kg , 9.5% (n= 16) of the respondents prepared more than 1.5 kg on a monthly basis.

BRANDING OF CURRY MASALA AND CURRY POWDER

The brand preference of consumers on the various curry powder and masala are listed below:

Sambar Powder

Sambar powder is the result of mixing the masala ingredient. The consumers were asked what was their choice on the brand of sambar powder they preferred. The consumer's preference on the brand of sambar powder is interpreted as follows;

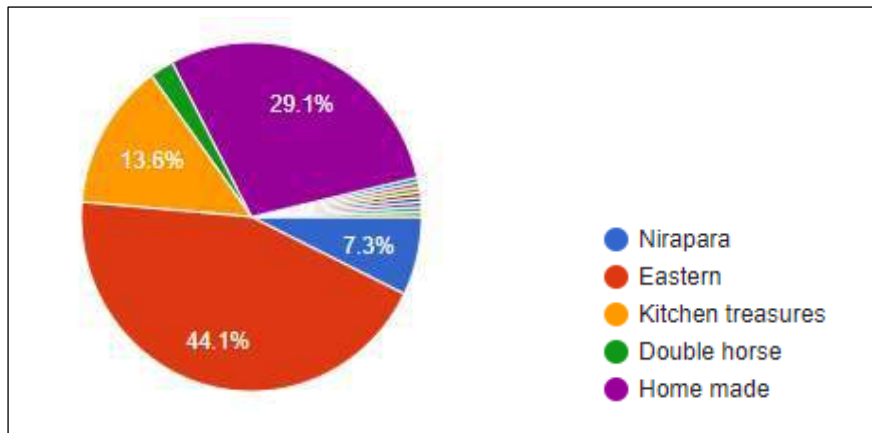


Fig no. 4.7 shows the consumers preference on sambar powder brands

From the data, it was clear that the majority of 44.09% (n=97) respondents prefer the Eastern brand while least for the Double Horse brand (2.3%, n=5) and 29.09% (n=64) of the respondents preferred home-made preparations.

In a similar study conducted by Kamarasan (2014), it was found that the consumer preference on the brand of Sambar powder was Aachi (n = 54), second most preferred brand was Sakthi masala (n =38) and the least preferred brand was Pandiyan (n = 3) in Tamil Nadu.

- **Chilli Powder**

The consumers were asked what was their preferred brand on Chilli powder. The preference by the consumers on brands of Chilli powder is interpreted as follows:

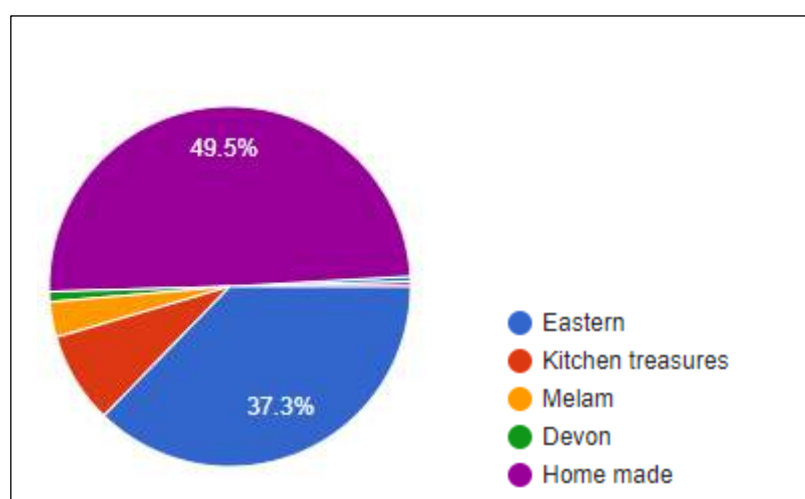


Fig no. 4.8 shows the consumers preference on Chilli powder brands

From the above pie chart, it clearly shows that out of 220 respondents, the most preferred brand was Eastern (37.3%, n= 82) and the least preferred brand was Devon (0.9%, n=2) and the majority of 49.5% (n=109) used the chilli powder prepared at home.

In a study conducted by Dr. Angamuthu (2019) on consumers' perception and satisfaction towards Sakthi masala products shown that the chilli are the most preferred pure spices among the consumers of Shakthi masala products.

In a study conducted by Kamarasan (2014). It was seen that the consumer preference was Shakthi masala (n =52), the second most preferred brand was Aachi (n = 34) and the least preferred brand was Aasai (n = 8) in Tamil Nadu.

- **Turmeric Powder**

The consumers were asked what was their preferred brand on Turmeric powder. The preference of brand of Turmeric powder by the customers is interpreted in the following.

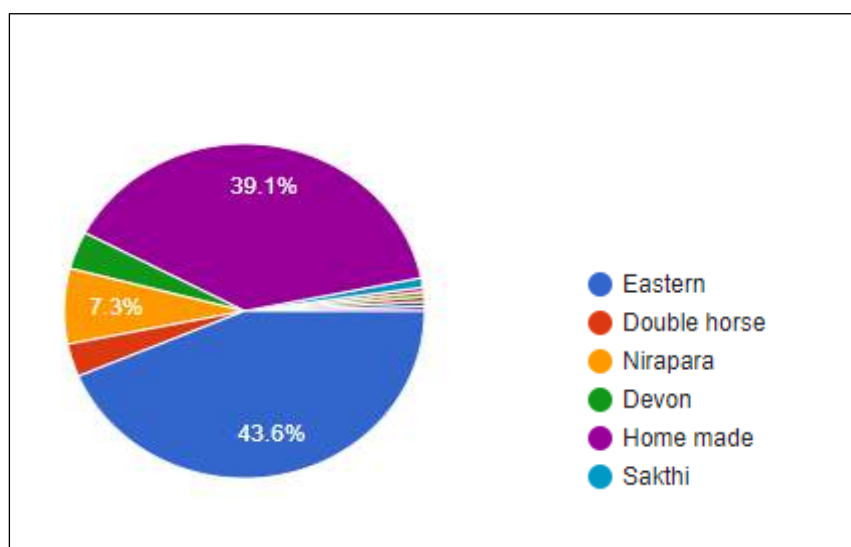


Fig no. 4.9 shows the consumers preference on Turmeric powder brands

Majority of the respondent's preferred brand was Eastern (43.6%, n= 96), 39.1% (n= 86) was constituted for homemade and the least preferred brand was Double Horse (3.2%, n=7).

In a study conducted by Kamarasan (2014). It was found that the consumer preference was Aachi (n =49), the second most preferred brand was Shakthi masala (n = 29) and the least preferred brand was Everest (n = 3) in Tamil Nadu.

In a study conducted by Dr. Angamuthu (2019). The research has shown that the most preferred pure spices was turmeric powder among the consumers of Shakthi masala products.

- **Coriander Powder**

The consumers were asked what was their brand choice on Coriander powder. The preferred brand of Coriander powder by the customers is interpreted as follows.

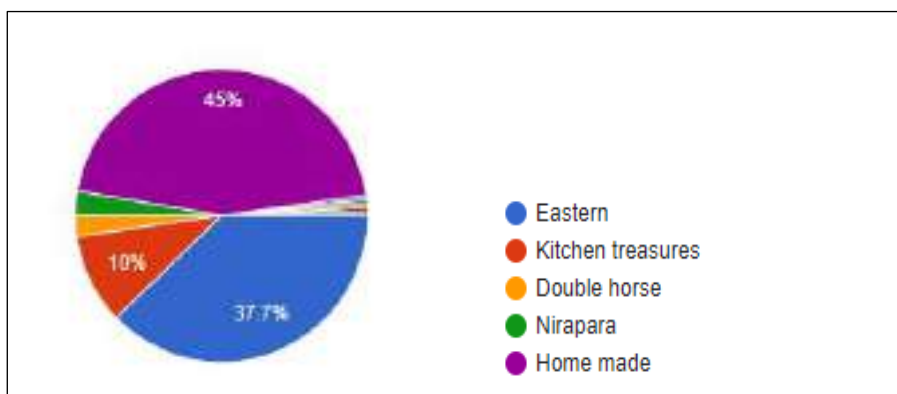


Fig no. 4.10 shows the consumers brand preference on Coriander powder

From the survey , it was seen that the most preferred brand was Eastern (37.7%, n= 83), and the least preferred brand was Double Horse (2.3%, n=5) and the respondents preferred the homemade powder constituted was (45%, n=99).

In a study conducted by Kamarasan (2014). It was found that the brand consumer preference was Shakthi masala (n =55), the second most preferred was Aachi (n = 3) and the least preferred were MTR and Pandiyan (n =9) in Tamil Nadu.

In a similar study done by Tanzina *et al* (2017), it was shown that the curry powder altered specifically based on their preferred products/brands.

- **Rasam Powder**

The consumers were asked what was their preferred brand on Rasam powder. The preference of brand of Rasam powder by the customers is interpreted in the following

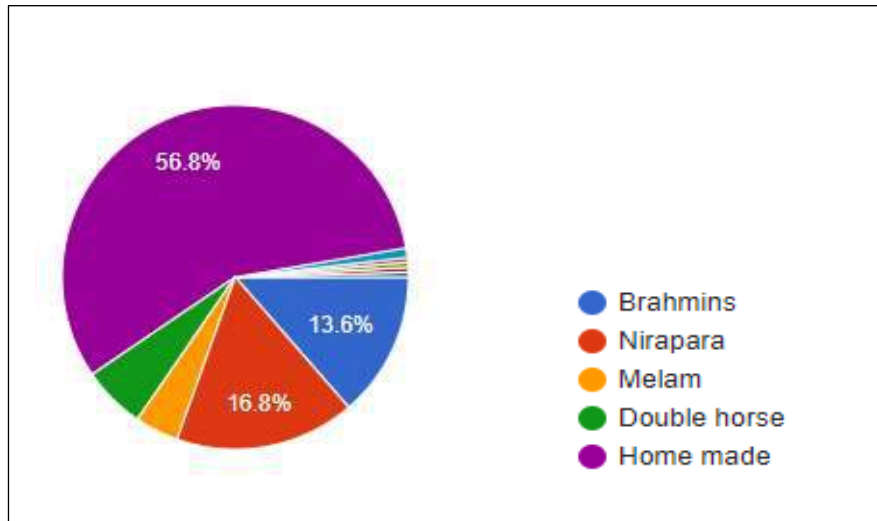


Fig no. 4.11 shows the consumers preference on Rasam powder brands

From the response, it was revealed that the majority of the respondents prefer the homemade (56.8%, n=125), most preferred brand was Nirapara (16.8%, n=37) and the least preferred brand was Melam (4.1%, n= 9).

In a study conducted by Kamarasan. It was seen that the consumer preference was Aachi (n = 41), the second most preferred brand was Shakthi masala (n = 39) and the least preferred brand was MTR (n = 13).

- **Pickle Powder**

The consumers were asked what was their preferred brand on Pickle powder. The response of the consumers is represented below;

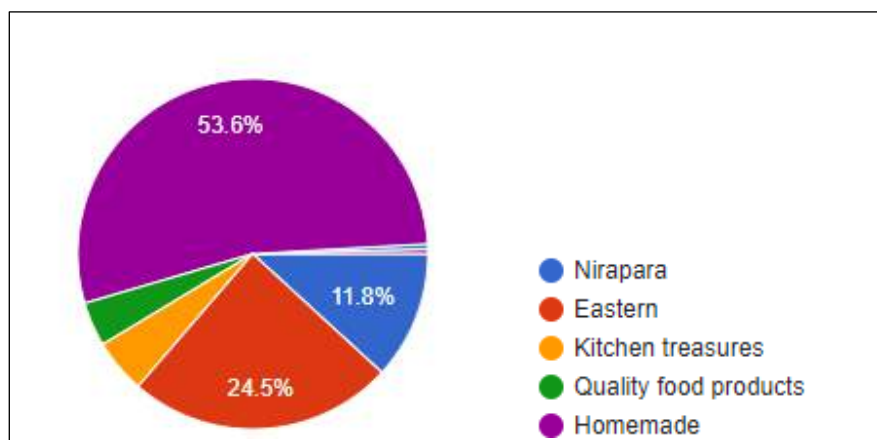


Fig no. 4.12 shows the consumers preference on Pickle powder brands

The study shows that the most preferred brand was Eastern (24.5%, n=54) and the least preferred brand was Quality food products (4.1%, n= 9). Respondents who preferred the homemade powder constituted 53.6% (n=118).

- **Chicken Masala**

The consumers were asked what was their preferred brand on Chicken Masala. The preference of brand of Chicken masala by the customers was interpreted in the following.

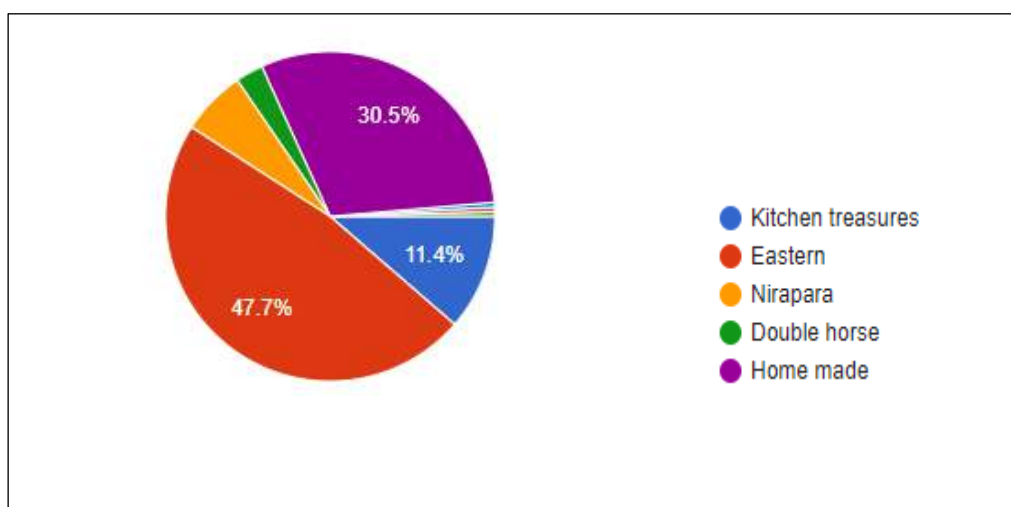


Fig no. 4.13 shows the consumers preference on Chicken masala brands

From the response, it was seen that the most preferred brand was Eastern (47.7%, n=105) and the least preferred brand was Double Horse (2.7%, n= 6). Respondents who preferred the homemade powder constituted 30.5% (n=67).

A similar study was done by Dr. Angamuthu (2019) on consumers' perception and satisfaction towards Sakthi masala products, it was inferred that the chicken masala was the preferred spice blends among the consumers of Shakthi masala products.

In a study conducted by Kamarasan (2014). It was found that the consumer preference was Aachi (n = 69), the second most preferred brand was Shakthi masala (n = 37) and the least preferred brand was MTR (n = 1).

- **Mutton Masala**

The consumers were asked what was their preferred brand on Mutton Masala. The preference of brand of Mutton masala by the customers was interpreted as follows:

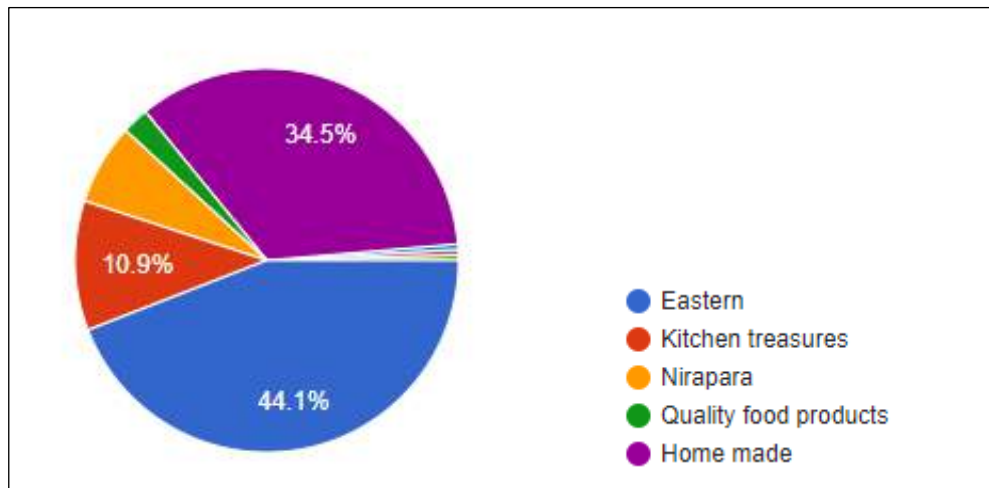


Fig no. 4.14 shows the consumers preference on Mutton masala brands

From the survey, the result indicates that the most preferred brand was Eastern (44.1%, n=97) and the least preferred brand was Quality Food Products (2.3%, n= 5). Respondents who preferred the homemade powder constituted 34.5%, (n=76).

In a study conducted by Kamarasan (2014). It was seen that the consumer preference was Aachi (n = 69), the second most preferred brand was Shakthi masala (n = 37) and the least preferred brand was MTR (n = 1).

A similar study was carried out by Dr. Angamuthu (2019) on the result indicates that the mutton masala was the preferred spice blends among the consumers of Shakthi masala products.

- **Meat Masala**

The consumers were asked what was their preferred brand on Meat Masala. The following is the response of the consumers.

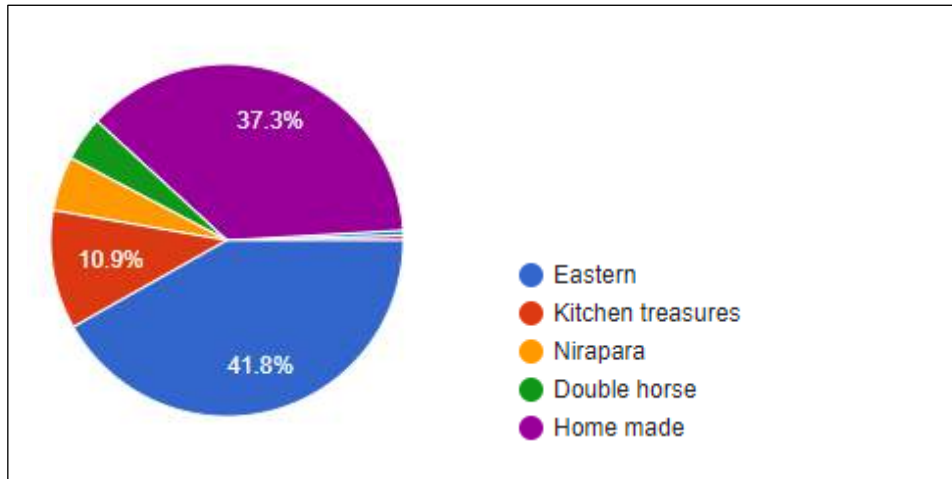


Fig no. 4.15 shows the consumers preference on Meat masala brands

From the response , the result shows that the respondents prefer the homemade powder was 37.3%, (n=82), most preferred brand was Eastern (41.8%, n=92) and the least preferred brand was Double Horse (4.1%, n= 9).

- **Biriyani Masala**

The consumers were asked what was their preferred brand on Biriyani Masala. The following is the response of the consumers.

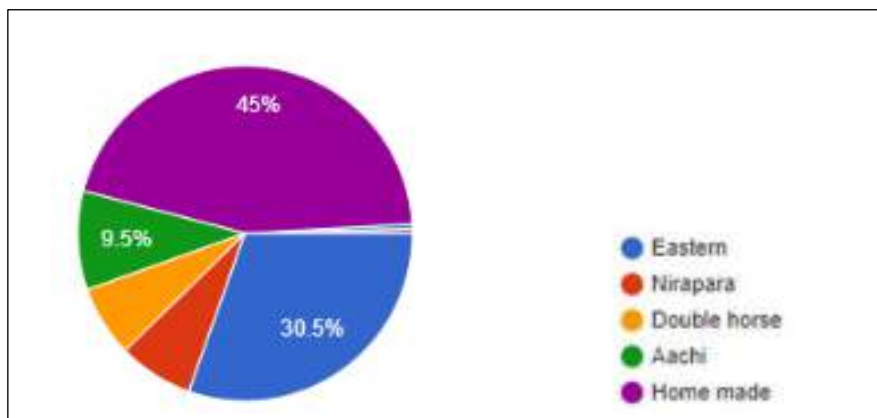


Fig no. 4.16 shows the consumers preference on Biriyani masala brands

From the survey, it was seen that the majority of the respondents prefers the homemade powder (45%, n=99), most preferred brand was Eastern (30.5%, n=67) and the least preferred brand was Double Horse (6.8%, n= 15).

- **Garam Masala**

The consumers were asked what was their preferred brand on Garam Masala. The following is the response of the consumers.

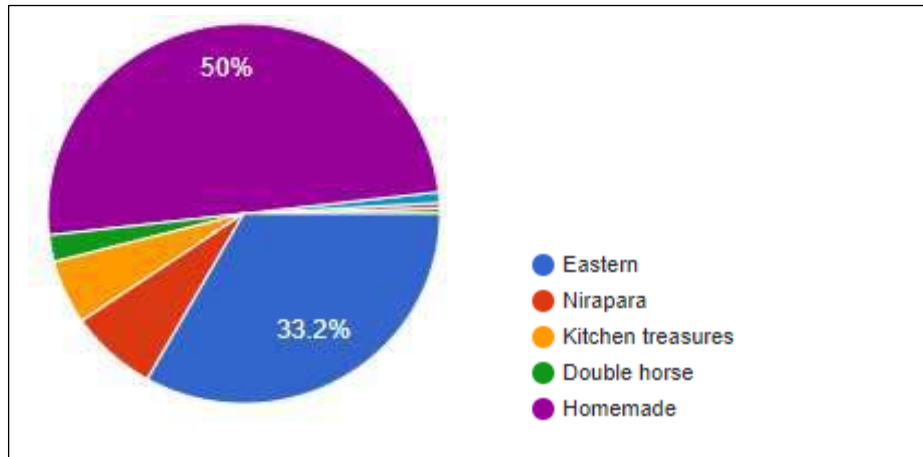


Fig no. 4.17 shows the consumers preference on Garam masala brands

From the response , the result shows that the majority of the respondents preferred the Homemade powder (50%, n=110), most preferred brand was Eastern (33.2%, n=73) and the least preferred brand was Double Horse (2.3%, n=5).

- **Fish Masala**

The consumers were asked what was their choice on Fish Masala. The preference of brand of Fish masala by the customers is interpreted in the following.

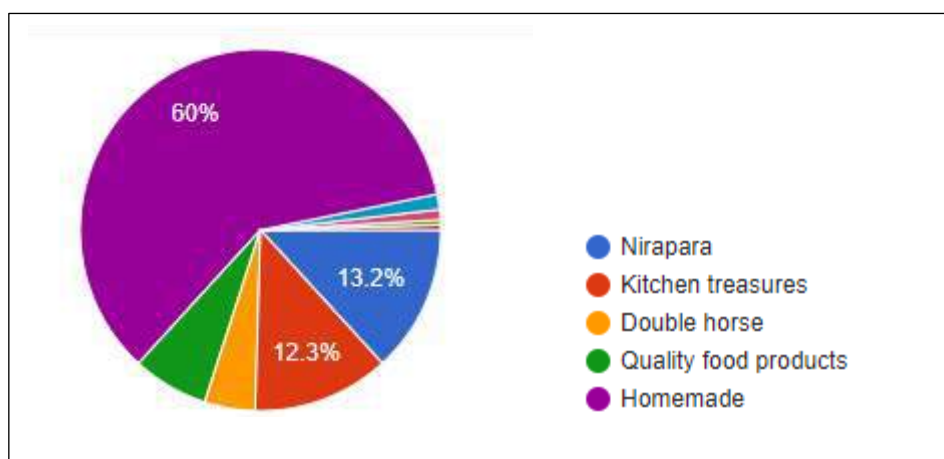


Fig no. 4.18 shows the consumers preference on Fish masala brands

The result shows that the most preferred brand was Nirapara (13.2%, n=29), the respondents who prefer the homemade powder was (60%, n=132), most preferred brand was Nirapara (13.2%, n=29) and the least preferred brand was Double Horse (4.5%, n=10).

In a study conducted by Kamarasan (2014) shows that the consumer preference was Aachi (n = 69), the second most preferred brand was Shakthi masala (n = 37) and the least preferred brand was MTR (n = 1).

- **Egg Masala**

The consumers were asked what was their choice on Egg Masala. The following is the response received from the consumers.

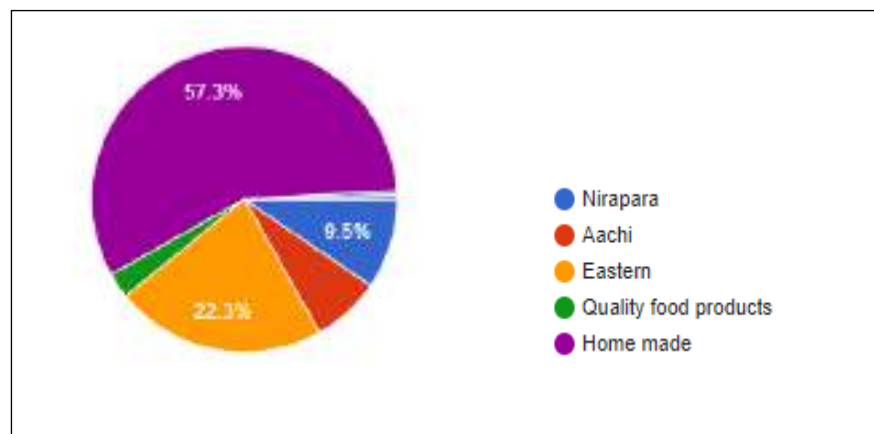


Fig no. 4.19 shows the consumers preference on Egg masala brands

From the response, it was inferred that the majority of the respondents preferred the homemade powder (57.3%, n=126), most preferred brand was Eastern (22.3%, n=49) and the least preferred brand was Quality Food Products (2.7%, n=6).

- **Vegetable Masala**

The consumers were asked what was their brand choice on Vegetable Masala. The following is the response received from the consumers.

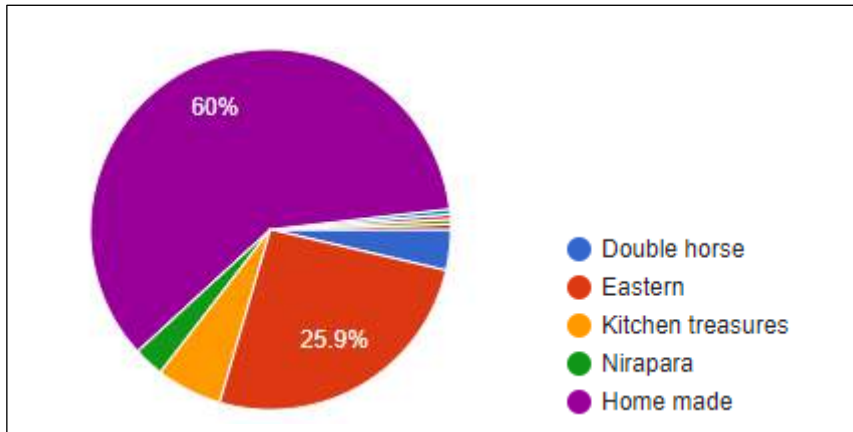


Fig no. 4.20 shows the consumers preference on Vegetable masala brands

From the response, it was seen that majority of the respondents prefer the homemade powder (60%, n=132), most preferred brand was Eastern (25.9%, n=57) and the least preferred brand was Nirapara (2.7%, n=6)

- **Curry Masala**

The consumers were asked what was their brand choice on Curry Masala. The following response is received from the consumers.

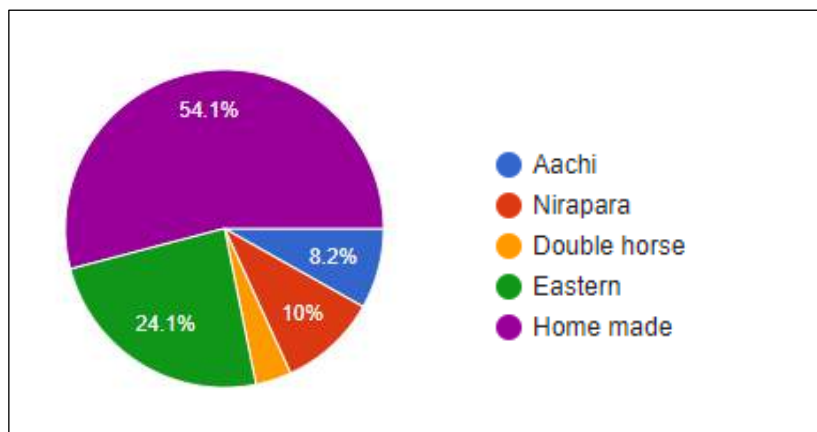


Fig no. 4.21 shows the consumers preference on Curry masala brands

It was evident from the above pie diagram that the majority of the respondents preferred the homemade powder (54.1%, n=119), most preferred brand was Eastern (24.1%, n=53) and the least preferred brand was Double Horse (3.6%, n=8).

A study was done by Kamarasan (2014) was found that the consumer preferred the most was Aachi (n = 41), the second most preferred was Shakthi masala (n = 39) and the least preferred was Pandiyan (n = 21).

BRAND PREFERENCE

As part of a questionnaire concerning the recommendation of a brand to others, here are the responses provided by them.

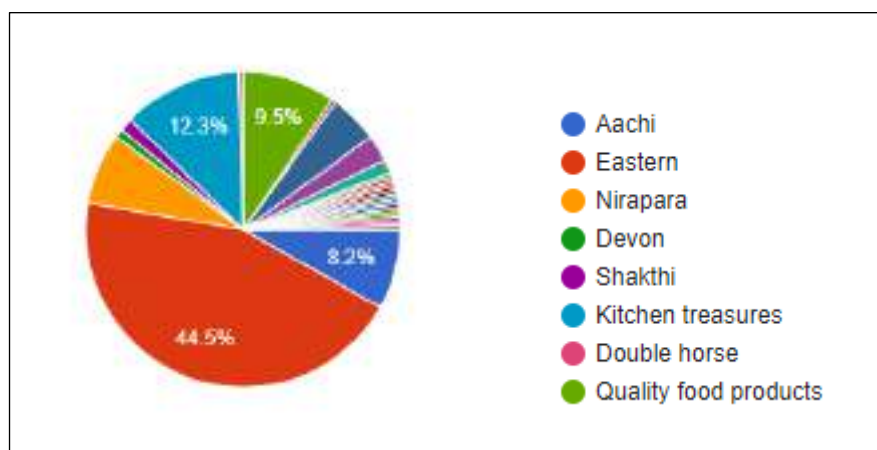


Fig no. 4.22 shows the brand preferred by consumers

The above pie diagram revealed that the maximum of 44.55% of the customer prefer to buy Eastern (n = 98), 12.3% of the customers prefer to buy Kitchen Treasures (n = 27), 9.5% of the customer prefer to buy Quality Food Products (n = 21), 7.27% of the customer prefer to buy Nirapara (n = 16), 8.2% of the customer prefer to buy Aachi masala.

A similar study was conducted by Dr. Krishnakumar *et al* (2014). According to their findings, Shakthi Masala is the most preferred brand among the customers, 20% of the customers preferred to buy Aachi Masala Powder, 10% of the customer preferred to buy Everest Masala Powder, 8% of the customers prefer to buy other Masala Powders, while 6% of the customers prefer to MTR and Aashirvaad Masala Powder.

A study was carried out by Abinaya *et al* (2015). The result shows that, 78% of the customers' preferable brand was Aachi, 18% of the customers' preferable brand was Shakthi and only 4% of the customers' preferred MTH brand.

BRAND RECOMMENDATION

Customers were asked why they recommended this brand to others, the Taste, Aroma, Brand value etc are the answers provided;

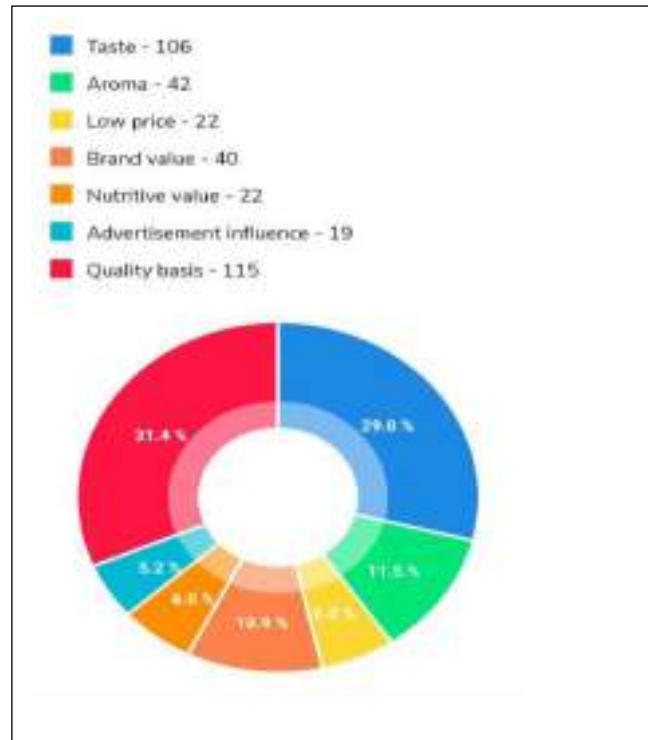


Fig no. 4.23 shows the reason for recommending the brand to others

In terms of recommending a brand to others, 31.42% of the consumers were influenced by their quality (n = 115), 28.96% influenced by their Taste (n = 14), 11.48% by their Aroma (n = 42), 10.93% by their brand value (n = 40), 11.48% by their Low price and Nutritive value (22), 5.19% by their Advertisement (n = 19).

In a study carried out by Anugya Bharti *et al* (2016), it was inferred that the reason for using particular brand masala were taste, good quality, purity and reliability, uniqueness, faith in the products as used from longer time, affordable price etc, were answers suggested by the respondents.

Dr. Kavitha *et al* (2019) conducted a study on consumer brand preference of masala powder in Namakkal District. In their study, an attempt has made to know the factors that have great influence over customers in brand preference was 49.17% prefers to Good for health (n = 59), 25% for Taste and Flavours (n = 30), 10.83% for Easy availability (n = 13), 7.5% for Company image and Price.

HOMEMADE VS BRANDED MASALA PRODUCTS

If the consumers have a choice to opt homemade and branded curry powders and masalas.

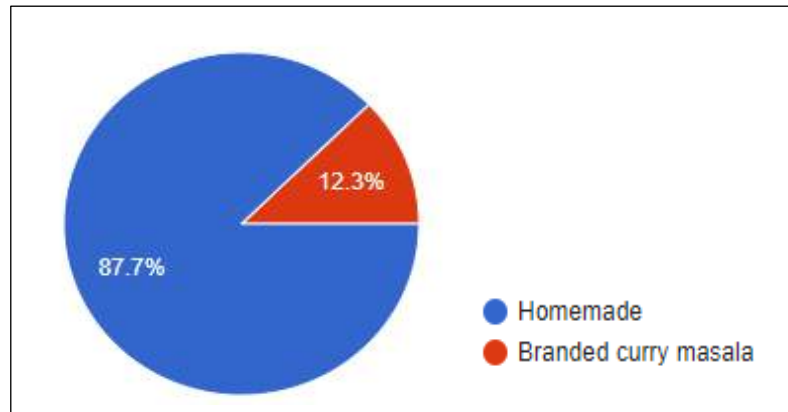


Fig no. 4.24 shows the consumers preference towards branded and homemade masala.

87.7% of the consumers choose the homemade masalas and powders over the branded one and 12.3 % choose the branded masalas.

In a study conducted by Bala Swamy *et al* (2012), it was seen that the low cost of preparation in home and differences in tastes were the major reason for non-consumption, whereas the ready availability and saving time of preparation were the reasons for consuming the instant food products.

Results of similar study done by Harishma Vijay *et al* (2020) shows that the people choose to use the homemade masala and spice powders rather than readymade ones. Because they considered that the homemade masalas and powders were not adulterated.

The purpose of using the masala were also asked to the respondents. The pie chart below shows the response received from consumers.

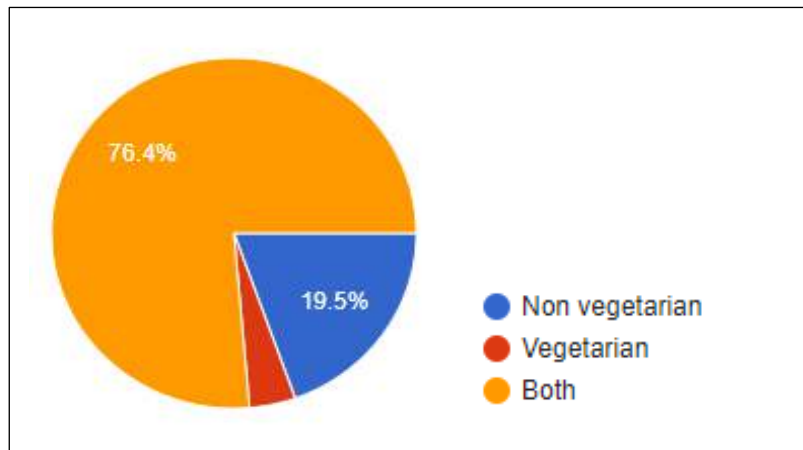


Fig no. 4.25 shows the masala preference for food items

From the survey, the result indicates that 76.4% of the consumers use curry masalas for both vegetarian and non-vegetarian dishes, the remaining 19.5% used curry masalas for the preparation of non-vegetarian dishes only and 4.1% of the consumers used curry masalas for the preparation of vegetarian dishes.

Dr. Prakash *et al* (2017) conducted a survey regarding the users of masala for vegetarian, non-vegetarian or both. The survey reveals that 60% of the respondents used Masala Powder for cooking non vegetarian food, 25% for the vegetarian food preparation and the remaining 15% of the respondents using masala powder to prepare both vegetarian and non-vegetarian items.

In a similar study done by Dr. Krishnakumar *et al* (2017), the team examined the different types of Masalas used for vegetarian, non-vegetarian dishes or both. From the 255 respondents, 55 respondents used vegetarian masala, 72 respondents used non-vegetarian masala, 71 respondents used both vegetarian and non-vegetarian masala and 57 respondents used other types of masala items. In the study, majority of the respondents were satisfied with both vegetarian and non-vegetarian masala of Aachi masala products.

FREQUENCY OF PURCHASE

On a question which were asked regarding the frequency of the purchase,

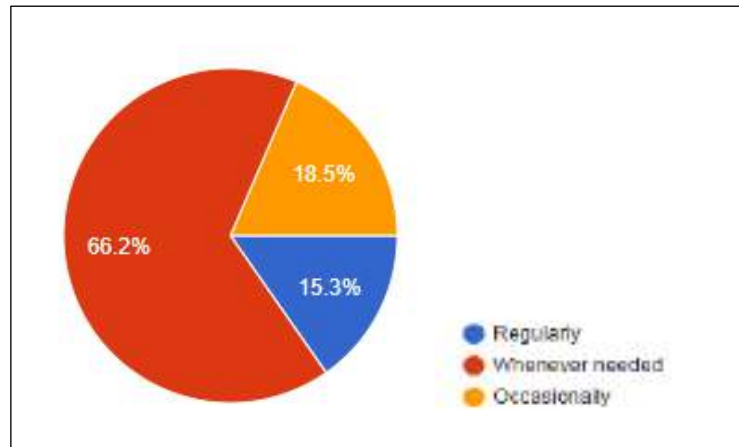


Fig no. 4.26 shows the frequency of purchasing the curry powders and masalas

The result indicates that 66.2% (n= 143) of the respondents purchased whenever the curry powder and masala is needed. 18.5% purchased occasionally and 15.3% purchased regularly.

A study was carried out by Dr. Vasan (2019), they purchased instant products on a regular basis, because of its easy availability and saving time for the preparation of food. It was also seen that the customers were more satisfied with its constant access in the market.

A similar study was done by Dr. Prakash and Vinoth (2017) analysing consumer preference to brand of masala powder. The survey revealed that 25% of the respondents used masala powder for all times, 50% respondents are using masala powder in times of emergency 10 % respondents were using masala powder for small preparations only and the remaining 15% respondents are using masala powder for all occasions. Majority of 50 % respondents are using masala powder in times of emergency.

EXPECTATION IN BRANDED MASALA PRODUCTS

For the question regarding the expectations of the customers while purchasing branded curry powders and masalas, the customers' expectations were good quality and taste. Some of the

customers preferred the product that are free from adulteration along with nutritive value and those which are at affordable prices.

A study was conducted by Bala Swamy et al (2012). Ready availability, save time were the expectations while purchasing the branded products from the market.

A similar study was carried out by Stephen Joseph (2019) on the brand awareness and preference of Double Horse Products. The majority of the customers' expectations like quality, durability etc. were satisfied by the brand.

REASONS FOR OPTING BRANDED CURRY MASALA AND POWDER

The reason for opting the instant curry masala from market over the home ground masalas were asked to the respondents. The results are presented as follows:

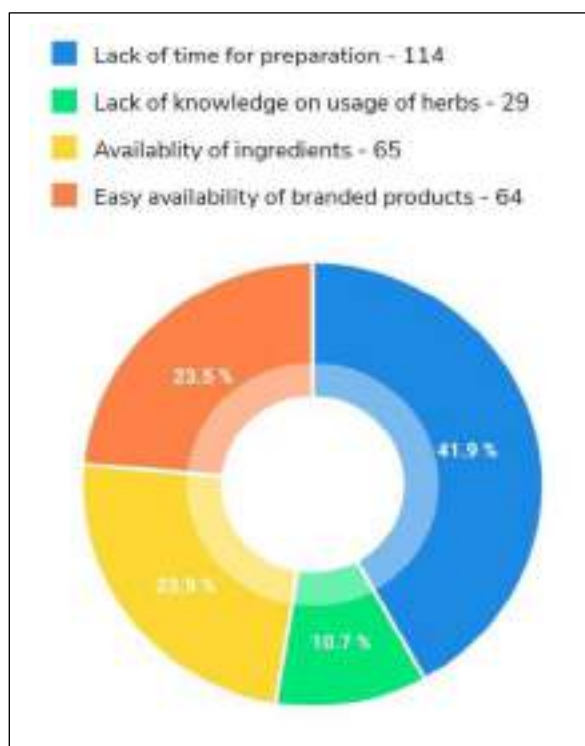


Fig no. 4.27 shows the reason for choosing the branded masalas

For the reason for choosing the branded masala products over the homemade masala, most of the respondents faced lack of time for preparation (41.9 %, n = 114), 23.5% for the easy availability of branded products, 29.1% were the easy availability of the branded masala products and 13.25% were lack of knowledge on the usage of herbs.

In a study conducted by Abinaya *et al* (2015), it was found that the satisfaction level of customers is moderate with respect to availability, variety, flavours and aroma. The research outcome also indicates that most of the customers were satisfied with Aachi chicken masala.

Kavinkesinikethan *et al* (2019) conducted a similar study about the factors influencing the respondents who shifted from homemade to branded spices. Among the respondents, 37.5% considered the process is so laborious to prepare at home. Almost 24.16% members indicated that it was time consuming and attractive and convenient packing was found among branded powders. 20% opted for lack of availability. There was a lack of knowledge on preparation and self-interest on branded spice powders among 19.16 % of customers. 15% of consumers opted for quality and trend. Only few respondents (14.16%) opted for cost effective criteria. Most of the respondents find it was a laborious process and time consuming, which made them to shift.

DEPENDENCY ON SHOPS

To know the response of consumer whether they depend or not for the needs of the curry powder and curry masalas.

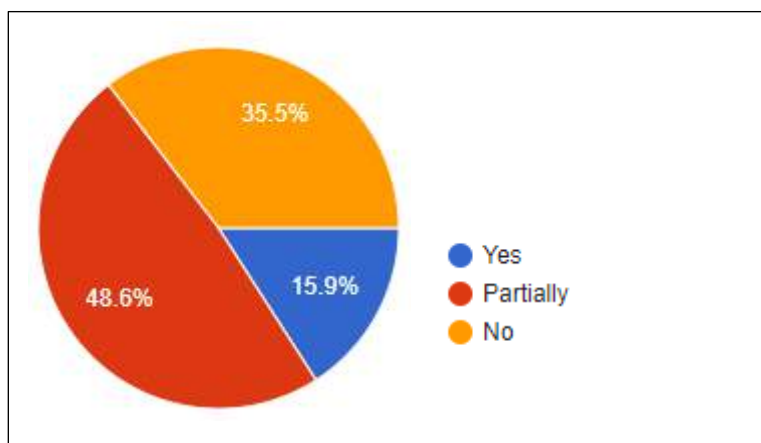


Fig no. 4.28 shows the dependency on shops for the needs of curry powder and masalas. Results indicated that 48.6% (n = 107) partially depend on the market for the need of the curry powder and masala. Only 15.9% completely depend while 35.5% doesn't depend on market-based curry powders and masalas.

SATISFACTION

The satisfaction of customers was asked with regard to the price, quantity, quality, offers and freshness. It is represented in the pie chart as follows:

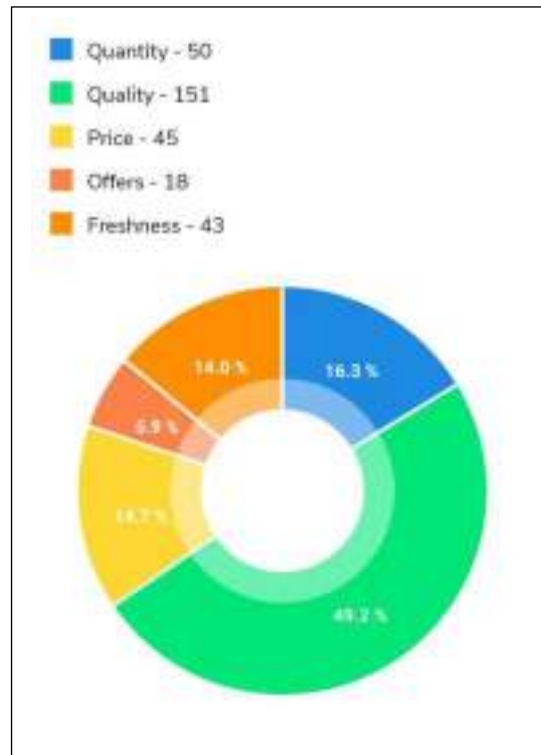


Fig no. 4.29 shows the satisfaction towards different attributes of branded masalas.

Survey data reveals that 68.6% of the customers were satisfied with the quality and 22.7% satisfied with the quantity. 20.5% were satisfied with Price while 19.5% were satisfied with the freshness.

In a study conducted by Abinaya *et al* (2015) results indicates that the satisfaction level of customers is moderate with respect to availability, variety, flavours and aroma in Aachi chicken masala.

INFLUENCER IN PURCHASE DECISION

Question on various influencers on the purchase decision of the curry masala and curry powder were asked to the respondents.

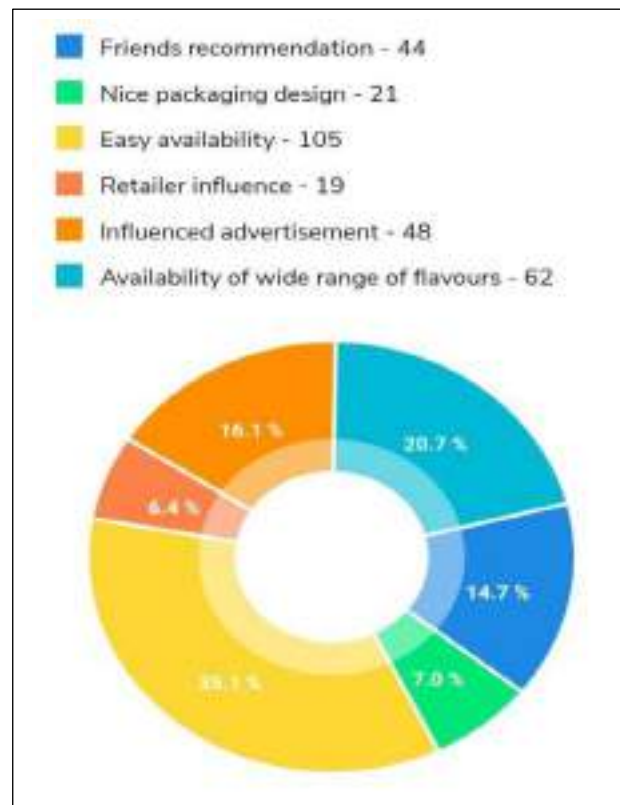


Fig no. 4.30 shows the influencer in purchase decision of branded masala products

From the above diagram, it is clear that the influencing factor to buy masala products is influenced by the advertisement, followed by easy availability of branded masala products, by friends' recommendation, by nice packaging and designs and were influenced by the retailers respectively.

Dr. Krishnakumar and Manikandan (2017) conducted a study similar to the influencer in purchase decision in branded masala products. 24% of respondents are influenced by the family members, 18% of respondents are influenced by the friends, 26% of respondents are influenced by the advertisement, 13% respondents are influenced by the relatives and 19% of respondents are influenced by others.

A study was done by Dr Kavitha and Dr Raja (2019) the awareness level were checked among the consumers in the various masala brands and their different varieties, attitude among the masala powder users at the time of purchasing, advertising impact of masala powder

purchase, identifying as the factors influencing of masala powder purchase in Namakkal District.

AWARENESS - ADULTERATION

Understanding the level of consumer awareness regarding adulteration of curry powder and curry masala.

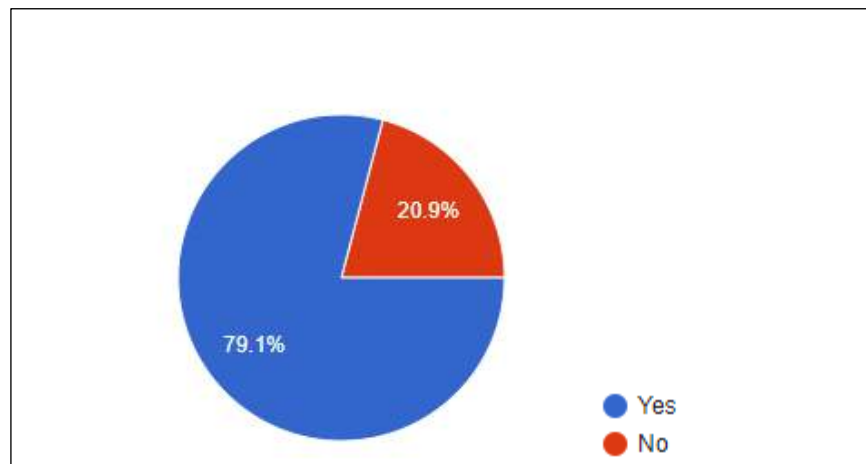


Fig no. 4.31 shows the level of consumer awareness regarding adulteration

The study shows that 79.1% of the respondents were aware about the adulteration in the curry powder and curry masala where 20.9% were unaware on the presence of the adulteration.

In a study conducted by Harishma Vijay *et al* (2020) on assessing the consumer choice of masala (homemade/readymade). It was found that people choose the homemade masala and spice powders rather than branded products. Because, they consider that homemade powders are not adulterated and also the consumers care about the purity of products.

AWARENESS- HEALTH EFFECTS ON CONTINUOUS USAGE

To know their views on the health effects of continuous use of branded products.

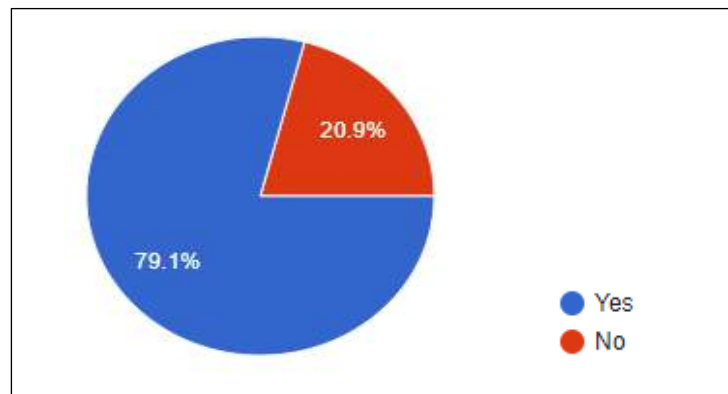


Fig no. 4.32 shows the level of consumer awareness on health effects

From the result, it was identified that 79.5% of the people who uses the branded curry masala and curry powder believes that the continuous usage leads to adverse health effects while rest of 20.5% of the people thinks that it doesn't cause health effects on the continuous usage.

A study done by Saloni Solanki and Simran Jain (2017) in the questionnaire to check whether they are ready to consume the food if the harmful effects of the food items are rectified. 51.8% consumer are not willing to consume the food after the problems are rectified. Only 37.5% of consumers are ready to go with the rectified food items while 10.7 % won't be able to rely. If the manufacturers can repose confidence by eliminating all doubts in the consumers' minds and assure them that these products are not a health hazard, then their consumption may increase.

Sadia Sattar *et al* (2019) conducted a study on Consumer Perception towards Quality of Spices Powder available in Bangladesh. Based on consumers' opinion, cancer, chronic nephritis and high blood pressure were the top possible diseases which may associate due to consumption of adulterated spices and also, they are expecting necessary action against adulteration.

Table 4.1 showing the highest and the lowest preferred curry masala brands with respect to homemade masalas

Sl No.	Curry powder and masala	Most preferred brand	Least preferred brand	Homemade
1.	Sambar powder	Eastern (44.09%)	Double Horse (2.3%)	29.09% (n=64)
2.	Chilli powder	Eastern (37.3%)	Devon (0.9%)	49.5% (n=109)
3.	Turmeric powder	Eastern (43.6%)	Double Horse (3.2%)	39.1% (n= 86)
4.	Coriander powder	Eastern (37.7%)	Double Horse (2.3%)	45% (n=99)
5.	Rasam powder	Nirapara (16.8%)	Melam (4.1%)	56.8% (n=125)
6.	Pickle powder	Eastern (24.5%)	Quality food products (4.1%)	53.6% (n=118)
7.	Chicken masala	Eastern (47.73%)	Double Horse (2.7%)	30.5% (n=67)
8.	Mutton masala	Eastern (44.1%)	Quality Food Products (2.3%)	34.5% (n=76)
9.	Meat masala	Eastern (41.8%)	Double Horse (4.1%)	37.3% (n=82)
10.	Biriyani masala	Eastern (30.5%)	Double Horse (6.8%)	45% (n=99)
11.	Garam masala	Eastern (33.2%)	Double Horse (2.3%)	50% (n=110)
12.	Egg masala	Eastern (22.3%)	Quality Food Products (2.7%)	57.3% (n=126)
13.	Fish masala	Nirapara (13.2%)	Double Horse (4.5%)	60% (n=132)
14.	Vegetable masala	Eastern (25.9%,)	Nirapara (2.7%)	60% (n=132)
15.	Curry masala	Eastern (24.1%)	Double Horse (3.6%)	54.1% (n=119)

CONCLUSION

Adulteration not only constitutes a considerable economic problem but also may lead to serious health issues for consumers. As studies indicate that adulteration is even increasing, it is concluded that more research efforts need to be made to protect consumers from health risks and honest producers from economic loss.

Food adulteration is a major social problem in every society. Government of India, enacted a Central Legislation called the Prevention of Food Adulteration Act, the objective envisaged in this legislation is to ensure pure and wholesome food to the consumers and also to prevent fraud or deception.

Although food additives have been in use since the Neanderthal era, they have gained huge popularity and utility in the modern times. The scientific use of readymade mixes, flavouring and colouring agents and essences have helped working women in particular, to keep up with the demands on their time. Additives also help in the manufacture of convenience foods that can be rapidly and easily prepared.

'We are what we eat' the saying goes. The wide array of delectable delicacies that have been made possible due to food additives, and have been widely misused by the modern world leading to an increase in 'food junkies' and added to the burden of lifestyle diseases. Hence, moderation must be the key word and these foods, which have been developed for 'convenience', must be wisely and justly used.

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